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1 [Techniques for obtaining high performance in Java programs](#)

Ifat H. Kazi, Howard H. Chen, Berdenia Stanley, David J. Lilja

September 2000 Computing Surveys (CSUR) , Volume 32 Issue 3

Publisher: ACM

Full text available: Pdf (816.13 KB)

 Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#),

Bibliometrics: Downloads (6 Weeks): 57, Downloads (12 Months): 464, Citation Count: 7

This survey describes research directions in techniques to improve the performance of written in the Java programming language. The standard technique for Java execution interpretation, which provides for extensive portability of programs. ...

Keywords: Java, Java virtual machine, bytecode-to-source translators, direct compile compilation, interpreters, just-in-time compilers

2 [Optimization strategies for a java virtual machine interpreter on the cell broadband](#)

Kevin Williams, Albert Noll, Andreas Gai, David Gregg

May 2008 CF '08: Proceedings of the 2008 conference on Computing frontiers

Publisher: ACM

Full text available: Pdf (467.23 KB)

 Additional Information: [full citation](#), [abstract](#), [references](#), [index ter](#)

Bibliometrics: Downloads (6 Weeks): 20, Downloads (12 Months): 100, Citation Count: 0

Virtual machines (VMs) such as the Java VM are a popular format for running architect code in a managed runtime. Such VMs are typically implemented using a combination interpretation and just-in-time compilation (JIT). A significant challenge ...

Keywords: interpreter, java, language implementation, virtual machine

3 [Context Threading: A Flexible and Efficient Dispatch Technique for Virtual Machin Interpreters](#)

Marc Berndt, Benjamin Vitale, Mathew Zaleski, Angela Demke Brown

March 2005 CGO '05: Proceedings of the international symposium on Code generation and optimization

Publisher: IEEE Computer Society

Full text available: Pdf (231.06 KB)

 Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#),

Bibliometrics: Downloads (6 Weeks): 9, Downloads (12 Months): 46, Citation Count: 5

Direct-threaded interpreters use indirect branches to dispatch bytecodes, but deeply-p architectures rely on branch prediction for performance. Due to the poor correlation be virtual program's control flow and the hardware program counter, ...

4 [Improving Java performance using hardware translation](#)

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Ramesh Radhakrishnan, Ravi Bhargava, Lizy K. John

June 2001 ICS '01: Proceedings of the 15th international conference on Supercomputing

Publisher: ACM

Full text available: Pdf (254.91 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#).

Bibliometrics: Downloads (6 Weeks): 4, Downloads (12 Months): 41, Citation Count: 3

State of the art Java Virtual Machines with Just-In-Time (JIT) compilers make use of a compiler techniques, run-time profiling and adaptive compilation to improve performance. However, these techniques for alleviating performance bottlenecks are ...

5 [Java bytecode to native code translation: the caffeine prototype and preliminary results](#)

Cheng-Hsueh A. Hsieh, John C. Gyllenhaal, Wen-mei W. Hwu

December 1996 MICRO-29: Proceedings of the 29th annual ACM/IEEE international symposium on Microarchitecture

Publisher: IEEE Computer Society

Full text available: Pdf (1.03 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#).

Bibliometrics: Downloads (6 Weeks): 6, Downloads (12 Months): 55, Citation Count: 18

The Java bytecode language is emerging as a software distribution standard. With major companies committed to porting the Java run-time environment to their platforms, programs in Java bytecode are expected to run without modification on multiple platforms. ...

6 [The structure and performance of interpreters](#)



Theodore H. Dierker, Dennis Lee, Geoffrey M. Voelker, Alec Wolman, Wayne A. Wong, Jean-Louis Baer, Brian N. Bershad, Henry M. Levy

December 1996 ASPLOS-VII: Proceedings of the seventh international conference on Architectures for support for programming languages and operating systems

Publisher: ACM

Full text available: Pdf (1.17 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#).

Bibliometrics: Downloads (6 Weeks): 5, Downloads (12 Months): 55, Citation Count: 18

Interpreted languages have become increasingly popular due to demands for rapid prototyping, ease of use, portability, and safety. Beyond the general impression that "slow," however, little has been documented about the performance of ...

Also published in:

September 1996 SIGPLAN Notices

Volume 31 Issue 9

December 1996 SIGOPS Operating Systems Review Volume 30 Issue 5

7 [DialogXML: extending VoiceXML for dynamic dialog management](#)

Eric Nyberg, Teruko Mitamura, Nobuo Hataoka

March 2002 Proceedings of the second international conference on Human Language Technology Research

Publisher: Morgan Kaufmann Publishers Inc.

Full text available: Pdf (481.60 KB)

Additional Information: [full citation](#), [abstract](#), [references](#)

Bibliometrics: Downloads (6 Weeks): 4, Downloads (12 Months): 45, Citation Count: 0


The characteristics of VoiceXML make it an attractive choice for the implementation of dialog systems on networked hardware. Nevertheless, VoiceXML lacks some important features found in existing proprietary approaches. It is difficult to build ...

8 [A hardware/software prototyping environment for dynamically reconfigurable embedded systems](#)

Josef Fleischmann, Klaus Buchenrieder, Rainer Kress

March 1998 CODES/ CASHE '98: Proceedings of the 6th international workshop on Hardware/software codesign


Publisher: IEEE Computer Society

Full text available:  Pdf (42.66 KB)

Additional Information: [full citation](#), [references](#), [cited by](#), [index term](#)


Bibliometrics: Downloads (6 Weeks): 3, Downloads (12 Months): 15, Citation Count: 5

9 [Developing mobile 3D applications with OpenGL ES and M3G](#)

 Kari Pulli, Jani Vaarala, Ville Miettinen, Tomi Aarnio, Mark Galloway

July 2005 SIGGRAPH '05: SIGGRAPH 2005 Courses


Publisher: ACM

Full text available:  Pdf (9.22 MB)

Additional Information: [full citation](#)

Bibliometrics: Downloads (6 Weeks): 26, Downloads (12 Months): 311, Citation Count: 0

10 [Hard Java](#)

 Paul Frerger

May 2008 SIGPLAN Notices , Volume 43 Issue 5

Publisher: ACM

Full text available:  Pdf (1.29 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index term](#)

Bibliometrics: Downloads (6 Weeks): 21, Downloads (12 Months): 48, Citation Count: 0

Sun Microsystems has been a fantastic repository of talent for years, somewhat reminding me of Apple Computer and the Xerox PARC (Palo Alto Research Center). Sun developed the S8000 of CPUs for their Solaris Operating System (a flavor of Unix). This ...

11 [A quantitative analysis of the performance impact of specialized bytecodes in java](#)

Ben Stephenson, Wade Hoist

October 2004 CASCON '04: Proceedings of the 2004 conference of the Centre for Advanced Computing on Collaborative research

Publisher: IBM Press

Full text available:  Pdf (365.60 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [review](#)

Bibliometrics: Downloads (6 Weeks): 5, Downloads (12 Months): 36, Citation Count: 2

Java is implemented by 201 bytecodes that serve the same purpose as assembler instructions while providing object-file platform independence. A collection of core bytecodes provides common and independent functionality while a collection of specialized ...

12 [Modeling methodology for integrated simulation of embedded systems](#)

 Akos Ledeczi, James Davis, Sandeep Neema, Aditya Agrawal

January 2003 Transactions on Modeling and Computer Simulation (TOMACS) , Volume 13

Publisher: ACM

Full text available:  Pdf (951.86 KB)


Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#)

Bibliometrics: Downloads (6 Weeks): 18, Downloads (12 Months): 111, Citation Count: 6

Developing a single embedded application involves a multitude of different development tools including several different simulators. Most tools use different abstractions, have their own formalisms to represent the system under development, utilize different ...

Keywords: Simulation, domain specific languages, metamodeling, model integrated circuit design, simulation integration

13 [Dynamo: a transparent dynamic optimization system](#)

 Vasanth Bala, Evelyn Duesterwald, Sanjeev Banerjia

August 2000 PLDI '00: Proceedings of the ACM SIGPLAN 2000 conference on Programming Language Design and Implementation

Publisher: ACM

Full text available:

Additional Information:

 Pdf (156.03 KB)

[full citation](#), [abstract](#), [references](#), [cited by](#),


Bibliometrics: Downloads (6 Weeks): 57, Downloads (12 Months): 253, Citation Count: 167

We describe the design and implementation of Dynamo, a software dynamic optimizer that is capable of transparently improving the performance of a native instruction stream executes on the processor. The input native instruction stream ...

Also published in:



May 2000 SIGPLAN Notices Volume 35 Issue 5

14 Self

 [David Ungar, Randall B. Smith](#)

June 2007 HOPL 111: Proceedings of the third ACM SIGPLAN conference on History of programming languages

Publisher: ACM

Full text available:  Mov (53:9 MIN),  Pdf (1.70 MB) Additional Information: [full citation](#), [appendices and abstract](#), [references](#), [index 1](#)

Bibliometrics: Downloads (6 Weeks): 63, Downloads (12 Months): 425, Citation Count: 0

The years 1985 through 1995 saw the birth and development of the language Self, started by the authors at Xerox PARC, through first implementations by Ungar and his students at Stanford University, and then with a larger team ...

Keywords: Self, adaptive optimization, cartoon animation, dynamic language, dynamic optimization, exploratory programming, history of programming languages, morphic, object oriented language, programming environment, prototype-based programming language, virtual machine

15 [A Conversation with James Gosling](#)
 [Eric Allman](#)


July 2004 Queue, Volume 2 Issue 5

Publisher: ACM

Full text available:  Html (29.30 KB),  Pdf (2.12 MB) Additional Information: [full citation](#), [abstract](#), [index 1](#)

Bibliometrics: Downloads (6 Weeks): 25, Downloads (12 Months): 77, Citation Count: 0

As a teenager, James Gosling came up with an idea for a little interpreter to solve a programming data analysis project he was working on at the time. Through the years, as a graduate student and as creator of Java and the Java Virtual Machine, ...

16 [Proceedings of the 36th SIGCSE technical symposium on Computer science education](#)
 Wanda Dann, Tom Naps, Paul Tymann, Doug Baldwin


February 2005 SIGCSE '05: Proceedings of the 36th SIGCSE technical symposium on Computer science education

Publisher: ACM

Additional Information: [full citation](#), [abstract](#)


Bibliometrics: Downloads (6 Weeks): n/a, Downloads (12 Months): n/a, Citation Count: 0

Welcome to St. Louis for the 36th year of the SIGCSE Technical Symposium on Computer Science Education. We are excited about SIGCSE 2005 and we hope you have as much fun as we had in planning this event. There is much to see and do with a record ...

17 [Formalizing the safety of Java, the Java virtual machine, and Java card](#)
 Pieter H. Hartel, Luc Moreau

December 2001 Computing Surveys (CSUR), Volume 33 Issue 4

Publisher: ACM


Full text available:  Pdf (442.86 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#),

Bibliometrics: Downloads (6 Weeks): 73, Downloads (12 Months): 407, Citation Count: 12

We review the existing literature on Java safety, emphasizing formal approaches, and of Java safety on small footprint devices such as smartcards. The conclusion is that all of good work has been done, a more concerted effort is ...

Keywords: Common criteria, programming

18 [A co-design strategy for embedded Java applications based on a hardware interface invocation semantics](#)

 Andrew Borg, Rui Gao, Neil Audsley

October 2006 JTRES '06: Proceedings of the 4th international workshop on Java technology time and embedded systems

Publisher: ACM

Full text available:  Pdf (430.56 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index term](#)

Bibliometrics: Downloads (6 Weeks): 2, Downloads (12 Months): 41, Citation Count: 0

As programmable hardware technology gathers momentum, the partitioning of application hardware and software will prove to be an increasingly important research area. Co-design technologies that achieve this partitioning typically adopt a strategy ...


Keywords: JavaMen, co-design, java

19 [Developing and debugging algebraic specifications for Java classes](#)

 Johannes Henkel, Christoph Reichenbach, Amer Diwan

June 2008 Transactions on Software Engineering and Methodology (TOSEM), Volume 17, Number 4

Publisher: ACM

Full text available:  Pdf (565.85 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index term](#)

Bibliometrics: Downloads (6 Weeks): 33, Downloads (12 Months): 211, Citation Count: 0

Modern programs make extensive use of reusable software libraries. For example, a statistical analysis of large Java applications shows that between 17&percent; and 30&percent; of the classes in those applications use container classes defined in the java.util package ...


Keywords: Algebraic interpretation, algebraic specifications, specification discovery

20 [How java programs interact with virtual machines at the microarchitectural level](#)

 Lieven Eeckhout, Andy Georges, Koen De Bosschere

November 2003 OOPSLA '03: Proceedings of the 18th annual ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications

Publisher: ACM

Full text available:  Pdf (348.88 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#)

Bibliometrics: Downloads (6 Weeks): 5, Downloads (12 Months): 112, Citation Count: 17

Java workloads are becoming increasingly prominent on various platforms ranging from embedded systems, over general-purpose computers to high-end servers. Understanding the impact of all the aspects involved when running Java workloads, is thus ...

Keywords: Java workloads, performance analysis, statistical data analysis, virtual machine technology, workload characterization

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